A Promising Electrochemical Sensing Platform Based On A Graphene Nanomaterials For Sensitive Sulfite Determination

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ABSTRACT
In this work, graphene, as a new electrode material, was used to modify carbon electrode for the simultaneous determination of sulfite ($SO3^{2-}$) under neutral conditions. The nanomaterial graphene was characterized by field-emission scanning electron microscopy and fourier transform infrared spectroscopy. Cyclic voltammetry and flow injection analysis were used to study the electrochemical properties of the proposed sensor. Under optimum conditions, the sensor exhibited good reproducibility and repeatability for sulfite determination. Linear response was obtained in the range of 5.0–160 μM with a detection limit of 1.0 μM for sulfite determination.

KEYWORDS: Graphene; sensor; sulfite; flow injection analysis.

DOI: 10.1109/ICoBE.2015.7235886